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# NASA Procedural Requirements

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**Subject: Property, Plant, and Equipment and Operating Materials and Supplies****Responsible Office: Office of the Chief Financial Officer**[| TOC](#) | [Preface](#) | [Chapter1](#) | [Chapter2](#) | [Chapter3](#) | [Chapter4](#) | [Chapter5](#) | [Chapter6](#) | [Chapter7](#) | [Chapter8](#) |  
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## Chapter 5 Internal Use Software

### 5.1 Overview

This chapter prescribes accounting policies and procedures for NASA internal use software (IUS). When accounting treatment for specific circumstances is not discussed in this chapter, reference should be made to SFFAS No. 10, Accounting for Internal Use Software, for guidance.

### 5.2 Roles and Responsibilities

Refer to Section 1.6 of this NPR document.

### 5.3 Capitalization Criteria

5.3.1 IUS. Software must be capitalized when all of the following conditions are met:

- a. Purchased commercially "off-the-shelf," internally developed, or contractor-developed solely to meet NASA's internal needs.
- b. Operated in a stand-alone mode and is not integrated or necessary to operate hardware or equipment. If not in stand-alone mode, it is subject to capitalization criteria of the asset in which it is integrated.
- c. Used to operate NASA's programs (i.e., financial and administrative software including that used for project management) or to support multiple NASA missions (i.e., communication software designed to support multiple missions). This would be software developed independently of a mission (i.e., not a part of the mission).
- d. Total project cost is \$1,000,000 or more.
- e. Expected useful life is two years or more.

5.3.2 NASA shall not capitalize:

- a. Software developed as part of a research effort (i.e. algorithm).
- b. Software integrated into and necessary to operate a NASA asset. Such software is subject to capitalization criteria of the asset in which it is integrated.
- c. Software that NASA does not own outright or for which NASA does not own a lease to operate.
- d. Data conversion, maintenance, and training costs.
- e. Costs incurred solely to repair a design flaw in software.
- f. Costs incurred to develop "free software" to be released to the public or other Federal agencies for purposes of advancing scientific and technological knowledge.

## 5.4 Valuation

5.4.1 NASA shall expense costs incurred during the Formulation Phase of the life cycle for internal use software as R&D costs. NASA must also expense costs during the Operational Phase, which begins when final acceptance testing has been successfully completed.

5.4.2 NASA shall capitalize costs incurred during the software development (Implementation Phase) phase of the life cycle for IUS. Capitalized costs are accumulated as WIP until final acceptance testing has been successfully completed. Once completed, the costs are transferred to PP&E, with amortization expense recognized on a periodic basis using the straight-line method, beginning in the month the IUS was capitalized. Such cost must be limited to cost incurred after:

a. Management authorizes and commits to a computer software project and believes that it is more likely than not that the project will be completed and the software will be used to perform the intended function with an estimated service life of two years or more..

b. The completion of conceptual formulation, design, and testing of possible software project alternatives (the preliminary design stage).

5.4.3 Capitalized costs include those for new software (i.e., salaries of programmers, systems analysts, project managers, and administrative personnel, associated employee benefits, outside consultants' fees, rent, and supplies) and documentation manuals.

5.4.4 For commercial, off-the-shelf (COTS) software, capitalized cost will include the amount paid to the vendor for the software. For contractor-developed software, capitalized cost will include the amount paid to a contractor to design, program, install, and implement the software. Material internal cost incurred by the Federal entity to implement the COTS or contractor- developed software and otherwise make it ready for use must be capitalized.

5.4.5 For enhancements to existing IUS, the FASAB specifies the following in SFFAS No. 10:

5.4.5.1 The cost of enhancements to existing IUS (and modules thereof) should be capitalized when it is more likely than not that they will result in significant additional capabilities.

5.4.5.2 The cost of minor enhancements resulting from ongoing systems maintenance should be expensed in the period incurred.

5.4.5.3 Costs incurred solely to repair a design flaw or to perform minor upgrades that may extend the useful life of the software without adding capabilities will be expensed.

5.4.6 Material expenditures that add capability or functionality are capitalized while expenditures that result in extending useful life are expensed.

5.4.7 Costs incurred after final acceptance testing has been successfully completed will be expensed. The likely types of costs that can be incurred during the Post- Implementation/Operational phase are associated with the following:

a. Operate the software, undertake preventive maintenance, and provide ongoing training for users.

b. Convert data from the old to the new system.

c. Undertake post-implementation review comparing asset usage with the original plan.

d. Track and accumulate life-cycle costs and compare it with the original plan. All data conversion costs incurred for internally developed or COTS software should be expensed as incurred, including the cost to develop or obtain software that allows for access or conversion of existing data, reconciliation or balancing data, and the creation of new/additional data.

5.4.8 Software integrated into and necessary to operate an asset is to be capitalized as part of the asset in which it is integrated.

5.4.9 Modules of a software project are amortized when the module has been successfully tested. If a module is dependent on the completion of another module, amortization begins when both modules have been successfully tested.

5.4.10 The cost of enhancements to existing IUS (and modules thereof) is capitalized when it is more likely than not that the enhancements will result in significant additional capabilities, costing \$1,000,000 or more, and having an expected service life of two years or more.

5.4.11 When software products and services are acquired as a combined package, the capital and non-capital costs of the package are allocated among individual elements on the basis of a reasonable estimate of their relative fair values.

5.4.12 The standard establishes the following principles for expensing costs of IUS:

5.4.12.1 Data Conversion. Data conversion costs incurred for internally developed, contractor- developed, or COTS software are expensed as incurred, including the cost to develop or obtain software that allows for access or conversion of existing data to the new software. Such costs may include the purging or cleansing of existing data, reconciliation or balancing of data, and the creation of new or additional data.

5.4.12.2 Training Costs. Training costs incurred for internally developed, contractor-developed, or COTS software are expensed as incurred, except training costs incurred to make the software initially implementable and ready for use. Training costs incurred to make the software initially implementable and ready for use will be added to the cost of the software and capitalized, if it meets the capitalization criteria.

5.4.12.3 Minor Enhancements. The cost of minor enhancements resulting from ongoing systems maintenance and costs incurred solely to repair a design flaw are expensed.

5.4.12.4 Minor Upgrades. The costs of minor upgrades that may extend the useful life of the software without adding capabilities are expensed.

5.4.13 For the accounting and reporting of software licenses, NASA has adopted the FASAB's suggestion in Paragraph 67 of SFFAS No. 10 that lease accounting concepts and the entity's policy for capitalization thresholds be applied. If the license agreement meets one or more of the following criteria and NASA's software capitalization threshold, it is considered a capital lease:

- a. The lease transfers ownership of the software to NASA by the end of the lease term.
- b. The lease contains an option to purchase the leased software at a bargain price.
- c. The lease term is equal to or greater than 75 percent of the estimated economic life of the leased software. This must be equal to or greater than the present value of the software license payments.
- d. The present value of rental and other minimum lease payments, excluding that portion of the payments representing executory cost, equals or exceeds 90 percent of the fair value of the leased software. To evaluate this criterion, determine the purchase price of the software and multiply it by 90 percent. This amount must be equal to or greater than the present value of the software license payments (if it is a standard COTS software, various sources could be used to provide the list price for the software package).
- e. Note: The last two criteria (c. and d.) are not applicable if the beginning of the lease term falls within the last 25 percent of the total estimated economic life of the leased PP&E.
- f. Note: Annual lease/renewals are not considered capital leases.

5.4.14 The following software costs must be captured for capitalization purposes:

5.4.14.1 Bundled Products and Services. Allocate the capital and non-capital cost of the package among the individual elements on the basis of a reasonable estimate of their relative fair values. For example, training, maintenance, or data conversion elements included in the package will be expensed; the software package, software implementation, installation, and testing elements shall be capitalized.

5.4.14.2 Contractor Developed Software. The amount paid to a contractor during the implementation phase and material internal costs incurred by NASA to implement the software and otherwise, make it ready for use, up through acceptance testing.

5.4.14.3 Internally Developed Software. The cost incurred through acceptance testing.

5.4.14.4 COTS Software. The amount paid to the vendor for the software (purchase or lease) and material internal costs incurred by NASA to implement the software and otherwise make it ready for use through acceptance testing.

5.4.15 Software Developed in Modules. Software developed in modules (including pilots) should be accounted for as follows:

5.4.15.1 If the modules are implemented and operated independently, the software will be accounted for based on the cost and expected useful life of each module. The useful life of independently implemented software starts on the date the software becomes operational.

5.4.15.2 If the modules are interdependent, the costs and life cycle will be the combined cost and life of the modules, which must be implemented together.

5.4.16 Bulk Purchase. Bulk purchases of the same software acquired under the same contract will be accounted for as a group. If the same software package is purchased under two or more contracts, costs must be accounted for and thresholds applied separately. Software acquired through separate contracts must be accounted for separately.

5.4.17 Software Licenses. Multiyear licenses are capitalized if the total projected cost is \$1,000,000 or more and the

expected useful life of the software is two years or more.

5.4.18 Enhanced Software. Enhancement costs for existing software should be capitalized if the enhancement results in significant additional capability beyond that for which the software was originally intended, the total cost of the enhancement is \$1,000,000 or more, and the expected useful life of the enhanced software is two years or more. The capitalized cost will include the same types of cost discussed above in Section 5.4.5. Costs incurred solely to repair a design flaw or perform minor upgrades must not be capitalized. A significant additional capability is considered a capability not included in original software specifications and which costs \$1,000,000 or more to develop (excluding all other updates to the software).

5.4.19 If software is being capitalized, but becomes unusable (impaired), this will be brought to the attention of NASA-Agency OCFO, Director for Financial Management. See section 2.6

5.4.20 Software costs associated with terminated projects and/or subprojects will be expensed.

## 5.5 Amortization

IUS that is capitalized pursuant to the SFFAS No. 10, Accounting for Internal Use Software, and requirements established in this chapter should be amortized over the estimated useful life of two years or more.

## 5.6 Disposal

NASA shall recognize disposals when software is determined to be obsolete or nonfunctional. NASA will continue to report fully depreciated software projects until they are removed from service. Refer to Chapter 2, of this NPR for more detailed discussion of disposal of capital PP&E.

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